In the Claims:

Claims 1-21 (Canceled).

22. (Previously presented) An optical imaging device, in particular an objective for semiconductor lithography, having at least one system diaphragm, the system diaphragm comprising a multiplicity of mobile plates which are rotatably mounted, wherein the plates have a spherical curvature.

23. (Previously presented) The optical imaging device as claimed in claim 22, wherein rotational bearing axes of the plates are aligned with a center of curvature (C) of a sphere, and the sphere determines a surface on which the plates are mobile relative to one another.

24. (Previously presented) The optical imaging device as claimed in claim 22, wherein the plates are arranged mobile in an overlapping fashion on two spherical surfaces, whose centers of curvature (C) are identical.

25. (Previously presented) The optical imaging device as claimed in claim 24, wherein the two spherical surfaces have a mutual separation A of a few millimeters, preferably $A < 1$ mm.

26. (Previously presented) The optical imaging device as claimed in claim 22, wherein the plates have a high stiffness.

27. (Previously presented) The optical imaging device as claimed in claim 23, wherein the plates are each rotationally mounted on the rotational bearing axis by means of solid state articulations in order to rotate the plates.

28. (Previously presented) The optical imaging device as claimed in claim 22, wherein the plates are movable by means of a drive ring, the drive ring being mounted rotatably about an optical axis via solid state articulations.

29. (Previously presented) The optical imaging device as claimed in claim 28, wherein the solid state articulations are designed as solid state articulations which are radially stiff and soft in the rotation direction.

30. (Previously presented) The optical imaging device as claimed in claim 28, wherein the drive ring is respectively connected to a plate via a drive element.

31. (Previously presented) The optical imaging device as claimed in claim 30, wherein the drive element is connected to the drive ring via a solid state articulation.

32. (Previously presented) The optical imaging device as claimed in claim 28, wherein the drive ring is monolithic with the drive element.

33. (Previously presented) The optical imaging device as claimed in claim 28, wherein the drive ring is formed by a material which has a high stability under alternating load.

34. (Previously presented) The optical imaging device as claimed in claim 22, wherein a drive unit for moving the plates is arranged outside a gas space (G).

35. (Previously presented) The optical imaging device as claimed in claim 23, wherein rotational bearings with the rotational bearing axes of the plates are respectively suspended in a diaphragm, the rotational bearing axes of the plates being alignable with the center of curvature (C).

36. (Previously presented) The optical imaging device as claimed in claim 35, wherein control members are provided for aligning the rotational bearing axes.

37. (Previously presented) The optical imaging device as claimed in claim 23, wherein the rotational bearings with the rotational bearing axes of the plates are respectively suspended on a solid state articulation, the rotational bearing axes of the plates being alignable with the center of curvature (C).

38. (Previously presented) The optical imaging device as claimed in claim 37, wherein the solid state articulation is designed as a quadruple articulation.

39. (Previously presented) The optical imaging device as claimed in claim 35, wherein tactile or optical measuring methods are provided for measurement when aligning rotational bearing axes of the plates.

40. (Previously presented) A variable system diaphragm for a microlithographic projection exposure apparatus having a multiplicity of plates held in a mobile fashion by means of solid state articulations.

41. (Previously presented) The variable system diaphragm as claimed in claim 40, wherein the plates are mounted rotationally by the solid state articulations.

42. (Previously presented) A variable system diaphragm having a multiplicity of mobile plates, the plates having a spherical curvature and being rotationally mounted, rotational bearing axes of the plates being aligned with a center of curvature (C) of a sphere, and the sphere determining a surface on which the plates are mobile relative to one another.

43. (Previously presented) The variable system diaphragm as claimed in claim 42, wherein the plates are arranged mobile in an overlapping fashion on two spherical surfaces, whose centers of curvature (C) are identical.

44. (Previously presented) The diaphragm as claimed in claim 43, wherein the two spherical surfaces have a mutual separation A of a few millimeters, preferably $A < 1$ mm.

45. (Previously presented) A projection objective in semiconductor lithography having optical elements, at least one variable system diaphragm for a microlithographic projection exposure apparatus being provided for introduction into a concave surface of an optical element, the diaphragm following a curved surface.

46. (Previously presented) The projection objective as claimed in claim 45, wherein the diaphragm follows a spherically curved surface.

47. (Previously presented) The projection objective as claimed in claim 45 or 46, wherein the diaphragm comprises a multiplicity of plates which are rotatably mounted.

48. (Previously presented) The projection objective as claimed in claim 47, wherein the rotational bearing axes of the plates are aligned with the center of curvature (C) of the sphere, the sphere determining a surface on which the plates are mobile relative to one another.

49. (Previously presented) The projection objective as claimed in claim 48, wherein the plates are arranged mobile in an overlapping fashion on two spherical surfaces, whose centers of curvature (C) are identical.

50. (Previously presented) The projection objective as claimed in claim 46, wherein the plates are mounted rotationally by solid state articulations.